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Antireticulin Antibodies in Psoriasis

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Abstract. Antireticulin antibodies were studied in the sera of 32 patients affected by various clinical forms of psoriasis. The indirect immunofluorescence method was used on histological sections of human kidney and mouse liver and kidney. This method was also used with sera from children with coeliac disease and from healthy controls. In 10 these antibodies were positive, while in 22 they were negative, the intensity of the titres varying with the extent of the disease. These results support the notion that immunological phenomena may be involved in the physiopathological mechanisms of psoriasis.

Key words: Antireticulin antibodies; Psoriasis; Coeliac disease; Dermatitis herpetiformis; Malabsorption disease

Immune mechanisms may be involved in the pathology of psoriasis. Antibodies to IgG, anti IgG 7, 9, 13, 19), as well as some other factors have also been found in blood (18, 19) and in psoriatic skin (IgG, IgA, IgM) and C₃ (13). Anti-stratum corneum antibodies and anti-IgG were found in the epidermal antigen-antibody complexes (13). The presence of auto-antibodies anti-stratum corneum and complement could be an initial auto-immune phenomenon (3, 12). The formation of antibodies antibasal cells nucleus provokes immune reactions (5).

No signs of delayed hypersensitivity reactions were detected by other methods (4, 10, 16, 24). We have not found in the literature any paper on antireticulin antibodies (ARA) in psoriasis.

MATERIAL AND METHODS

The sera of 32 patients, 18 male and 14 female, whose ages were between 12 and 61, were studied. The disease had an evolution ranging in time from 5 to 40 years, except for the guttate form which was of only 3 months' duration. ARA was investigated by indirect immunofluorescence methods on cryostatic sections of human kidney and mouse liver and kidney.

As positive controls the sera of 8 children with coeliac disease (CD) were used and as a negative control, the sera of 10 healthy controls. The sera were diluted to 1/10 in PBS, pH 7.2. These diluted positive sera were re-examined in order to determine the antibodies titres. We used goat antihuman IgG, FITC conjugated (Lab. Kallesstad; fluorescein-conjugated antisera). Titre 1/16, F/P weight ratio 6.46 µg/mg, F/P molar ratio 2/65. Dilution 1/10: specificity control, healthy controls, coeliac disease. Observation was performed with a Leitz Ortholux microscope, HBO 200 W/4 Hg lamp, dark camera D:1.20, with the corresponding filters: UG 1 (1 mm), BG 38, barriers K 460.

RESULTS

According to Seah et al. (20) those sera are positive which leave in the liver a fibrillar fluorescence around the portal space, and a linear one around the sinusoids (Fig. 1), sometimes showing a granular fluorescence corresponding to the transversely cut fibres, while in the kidney they were periglomerular and peritubular, in both human and animal tissues (Fig. 2). Of the 32 patients ARA was positive in 10, and negative in 22. As to the clinical forms, ARA had higher titres in the 5 erythroderma, except for cases 18 and 31 which had low titres because they had been treated with corticoids and cytostatics over a long time. Of the 11 patients with generalized psoriasis, with large plaques in the scalp, chest,

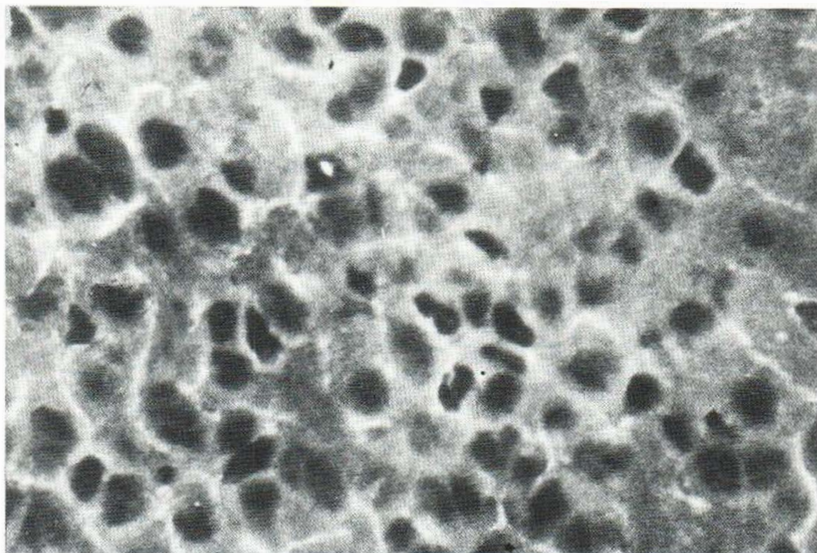


Fig. 1. Indirect immunofluorescence. Mouse liver section. The fluorescence corresponds to the periadventitial sinusoid reticulin fibres. $\times 250$.

abdomen and upper and lower limbs, ARA was found in 5. In these cases the titres ranged from 1/40 to 1/80. ARA was not observed in the 15 patients with localized forms on the scalp, elbows and knees, nor in the guttate form.

From these findings we deduce: 1) ARA was positive in some psoriatic patients (10/32); 2) ARA was positive in all erythroderma forms; 3) ARA was positive in some generalized forms; 4) ARA was negative in all localized forms. This suggests that there is a direct relationship between the extension of the lesions and the presence of ARA and the titre levels (Table I).

DISCUSSION

ARA are immunoglobulins of IgG type, even though they can also be IgA (8). Their significance is still a topic for discussion. They can be:

1) antibodies which react against one of the components of the reticulin fibre of the connective tissue (1, 21):

2) antibodies which combine with one of the reticulin fibre substances by a basic alteration of the latter (21):

3) non-specific antibodies which show a direct cross-reactivity with gluten fractions (1, 21, 22, 23):

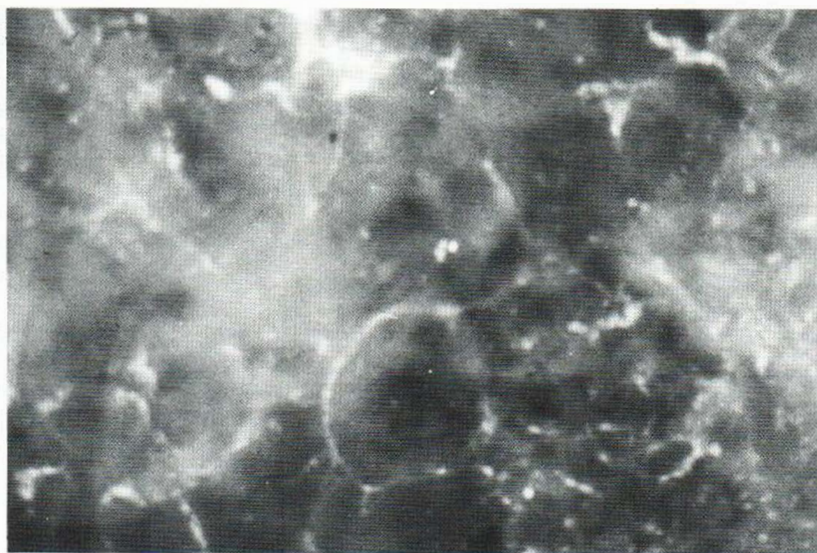


Fig. 2. Indirect immunofluorescence. Human kidney section. The fluorescence corresponds to the periglomerular and peritubular reticulin fibres. $\times 250$.

Table I

No of patient	Name	Age (y.)	Sex	Clinical form	ARA	Titre
1	H. A.	29	M	Generalized	—	
2	R. G.	29	M	Localized	—	
3	E. S.	58	M	Erythroderma	+	1/320
4	A. G.	28	F	Guttate	—	
5	C. P.	23	F	Localized	—	
6	A. G.	71	M	Generalized	+	1/40
7	A. S.	46	M	Generalized	+	1/80
8	M. E.	18	F	Localized	—	
9	V. S.	26	F	Localized	—	
10	L. A.	38	M	Generalized	+	1/80
11	A. V.	29	M	Erythroderma	+	1/160
12	C. T.	40	M	Generalized	—	
13	C. A.	48	M	Generalized	+	1/40
14	E. L.	12	F	Generalized	—	
15	E. C.	36	M	Generalized	+	1/40
16	A. C.	9	M	Localized	—	
17	E. K.	54	F	Generalized	—	
18	T. G.	40	M	Erythroderma	+	1/40
19	E. E.	65	M	Generalized	—	
20	H. A.	32	M	Localized	—	
21	E. F.	20	F	Localized	—	
22	M. L.	29	M	Localized	—	
23	O. K.	49	F	Localized	—	
24	G. C.	33	F	Localized	—	
25	M. Q.	26	F	Generalized	—	
26	M. P.	62	F	Localized	—	
27	L. C.	32	M	Localized	—	
28	A. M.	37	F	Localized	—	
29	J. C.	29	F	Localized	—	
30	S. P.	46	F	Localized	—	
31	A. B.	68	M	Erythroderma	+	1/40
32	C. D.	59	M	Erythroderma	+	1/80

4) non-specific antibodies against an altered, defective reticulin fibre which can become immunogenic by gluten (8);

5) antibodies arising as a response to the food-contained reticulin, passing through a damaged jejunal mucosa (1, 14).

All these concepts are based upon the finding of ARA in dermatitis herpetiformis (DH) and in CD, both disorders having an enteropathy provoked or maintained by gluten (15, 21, 23). ARA present in DH, which is an immunologic disorder, lead us to believe that an immune mechanism is involved in psoriasis. This is very interesting, because DH and CD show an enteropathy somewhat similar to the one described in some patients with psoriasis. Bazex et al. (2) found an intestinal injury with a malabsorption syndrome. He groups the results into two categories: (I) psoriasis with a malabsorption syndrome, and (II) psoriasis without a malabsorption syndrome. In the first, there is a relationship between the extension of the lesions and the diges-

tive alterations as well as a clinical relation between a regimen with or without gluten, and the appearance or disappearance of the injuries. In the malabsorption and associated psoriatic group, gluten could not be the cause of the disease but might be the triggering factor. Wells (26) speaks of a correlation between psoriasis and the malabsorption syndrome, the former becoming worse when there is an exacerbation of the steatorrhea. Shuster et al. (25) have studied psoriasis by means of several tests and intestinal biopsies, finding that in this disorder, steatorrhea is frequent and its intensity correlated with the extension of the injuries though their relationship is very difficult to determine. Matuchansky et al. (17) on the contrary have not observed histological injuries in the small intestine, even though they found alterations in some tests. To Degos et al. (6), studying 13 cases, there is no relation between the malabsorption syndrome and psoriasis.

According to our observations, the presence of ARA in some patients with psoriasis can be con-

sidered as being secondary to an enteropathy. Its non-detection in the remainder of the patients could be explained as being due either to the circulating levels being too low for detection by our laboratory methods, or because they exist and participate in the immune complexes, which could thus also explain the finding, in all our patients, of immune depots in the dermis, or because in these patients with psoriasis, this phenomenon is not present. In such cases it is important to prove the lack of an enteropathy.

All our observations and the presence of ARA in these enteropathies justify proceeding with investigations of the pathogeny of these antibodies and a study of the histology and immunology of the small intestine in psoriasis. However, these ARA are perhaps yet another element in the complex problem posed by this disorder.

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